

STANDARD FORM NO. 64

**SECRET**

155-812

**Office Memorandum • UNITED STATES GOVERNMENT**

TO : The Files

DATE: 5 May 1955

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FROM :

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SUBJECT: Contract (RD) XG-578, Task 7 - ET-2 - Trip Report

1. A visit was made to the facilities of the [redacted], on 2 May 1955 to monitor the subject contract. The design of an engineering model of the equipment was completed under Task 1. Task 7 requires the redesign of the engineering model and the construction of three prototype units.

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2. Those present for a discussion of the project activity were:

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3. The Contractor appears to have tentatively (pending a Laboratory evaluation) met redesign requirements sought by the Government and fabrication of the prototypes is in the Manufacturers Drawings and parts ordering stage. Contractual termination date is 31 May 1955. Because it is apparent that the Contractor cannot meet such a date due to the extensive redesign sought by the Government, it is recommended that the contract be extended three months to 31 August 1955.

4. The extent of the engineering redesign of the ET-2 sought by the Government, since the engineering model was not satisfactory, was amplified to not only render the equipment satisfactory in accordance with original task outline (1951) but also to provide basic design compatible with transistorization and miniaturization. The principal redesign features are as follows:

- A. A complete new tape stepping mechanism has been provided which includes a 1 RPM magnetic clutch which is noiseless in operation.
- B. The separate reading and writing heads have been replaced by a single head that performs both functions. The yoke of the new head now magnetizes the whole width of the tape rather than a fraction thereof increasing the takeoff voltage from 2 to 40 millivolts. Additionally, the new head is a standard component and need not be custom manufactured.

*Letter to LO  
signed  
5/9/55  
[initials]*

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- C. The increased signal level at the input to the integrating amplifier (see above) removed the need for the class A amplifier and the high and critical bias requirements for the phase splitter following this stage. Equipment reliability has thus been increased manyfold.
- D. A new printed circuit commutator controls the spacing and writing on the tape. Since the commutator is connected directly to the tape capstan, indexing is in positive synchronization.
- E. An isolating power transformer has been provided to replace the auto-transformer.
- F. A miniaturized voltmeter replaces the neon bulbs for correct voltage adjustment.

5. The company has expended approximately \$13,000 of an approximate \$44,000 allocated for Task 7. While it is not felt that the redesigned ET-2 represents the ultimate as a modern concept of Agent equipment, it is believed that the engineering improvements are important as establishing the design feasibility of this type of equipment. No work was undertaken by the Contractor towards reducing the size of the keyboard.



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## ROUTING AND RECORD SHEET

**INSTRUCTIONS:** Officer designations should be used in the "TO" column. Under each comment a line should be drawn across sheet and each comment numbered to correspond with the number in the "TO" column. Each officer should initial (check mark insufficient) before further routing. This Routing and Record Sheet should be returned to Registry.

<b>FROM:</b>				<b>TELEPHONE</b>	<b>NO.</b>
<b>R&amp;D-EP</b>				<b>3152</b>	<b>DATE</b>
					<b>5 May 1955</b>
<b>TO</b>	<b>ROOM NO.</b>	<b>DATE</b>		<b>OFFICER'S INITIALS</b>	<b>TELEPHONE</b>
		<b>REC'D</b>	<b>FWD'D</b>		<b>COMMENTS</b>
1. <b>R&amp;D</b>		5/9		<i>[initials]</i>	<b>Approval</b>
2. <del>R&amp;D-EP</del>					1-2 Is extension of contract in the mill? Yes. b&e. m. f. <i>[initials]</i>
3.					
4.					
5. <b>OCEI</b>		5/9		<i>[initials]</i>	
6. <b>OC-E</b>		155-8/9		<i>[initials]</i>	<b>Information</b>
7.					<b>For filing.</b>
8.					
9.					
10.					
11. <b>R&amp;D-EP</b>		5/10			
12.					
13.					
14.					
15.					

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